JOURNAL OF ELECTROANALYTICAL CHEMISTRY

Vol. 362 Nos. 1 and 2 30 DECEMBER 1993

CONTENTS

A review of the immobilization of enzymes in electropolymerized films
P.N. Bartlett (Southampton, UK) and J.M. Cooper (Glasgow, UK) 1

Steady-state investigation and electrochemical impedance spectroscopy: identifiability and distinguishability of metal dissolution and passivation mechanisms
F. Berthier (Orsay, France), J.-P. Diard, P. Landaud and C. Montella (Saint Martin d'Hères, France) 13

Distribution of the nucleation rate in the vicinity of a growing spherical cluster. Part 1. Theory and simulation results
A. Milchev (Sofia, Bulgaria), W.S. Kruijt, M. Sluyters-Rehbach and J.H. Sluyters (Utrecht, Netherlands) 21

Simple hierarchical impedance functions for asymmetric cells: thin-layer cells and modified electrodes
R.P. Buck, M.B. Mădăraş (Chapel Hill, NC, USA) and R. Mäckel (Neubiberg, Germany) 33

Electrochemical indication of surface reconstruction of (100), (311) and (111) gold faces in alkaline solutions
S. Štrbac (Belgrade, Serbia), A. Hamelin (Meudon, Principal, France) and R.R. Adžić (Belgrade, Serbia) 47

Effect of the supporting electrolyte and beam diameter on probe beam deflection experiments
J.D. Rudnicki, G.M. Brisard, H.A. Gasteiger, R.E. Russo, F.R. McLarnon and E.J. Cairns (Berkeley, CA, USA) 55

Dimethylbenzoquinone-mediated photoelectrochemical oxidation of water at a carbon paste electrode coated with photosystem II membranes
K. Amako, H. Yanai, T. Ikeda (Japan), T. Shiraishi, M.-a. Takahashi and K. Asada (Kyoto, Japan) 71

Metal electrodeposition on semiconductors.
Part 2. Description of the nucleation processes
P. Allongue and E. Souteyrand (Paris, France) 79

Metal electrodeposition on semiconductors.
Part III: Description of charge transfer and implication for the formation of Schottky diodes
P. Allongue, E. Souteyrand and L. Allemand (Paris, France) 89

The p-InP semiconductor/electrolyte contact under depletion conditions: impedance, reverse currents and photopotentials
J. Schefold (Stuttgart, Germany) 97

Measurements of standard potentials for nucleophiles by fast cyclic voltammetry.
I: 9-substituted fluorenide ions in dimethyl sulphoxide
T. Lund (Roskilde, Denmark) and S.U. Pedersen (Århus, Denmark) 109

Electrocatalytic activity of $Li_xNi_{1-x}O$ ($0 \leq x < 0.5$) solid solutions in the oxygen evolution reaction
I. Nikolov, R. Darkaoui, E. Zhecheva, R. Stoyanova, N. Dimitrov and T. Vitanov (Sofia, Bulgaria) 119

A study of the voltammetric response of thiourea and ethylene thiourea at gold electrodes in alkaline media
P.J. Vandeberg and D.C. Johnson (Ames, IA, USA) 129

Chemical equilibrium in Cr(III) + phenanthroline solutions. Voltammetric analysis using four-electrode systems
L.M. Yudi and A.M. Baruzzi (Córdoba, Argentina) 141

Perspectives for correlated single-electron tunnelling (SET) in ultrasmall electrochemical contacts
A.M. Kuznetsov (Moscow, Russian Federation) and J. Ulstrup (Lyngby, Denmark) 147

Charging and discharging behavior of zinc–manganese dioxide galvanic cells using zinc sulfate as electrolyte
T. Shoji and T. Yamamoto (Yokohama, Japan) 153

Electrocatalytic oxidation of formic acid on Pt binary and ternary electrodes in H_3PO_4
A.A. El-Shafei, H.M. Shabanah and M.N.H. Moussa (El-Mansoura, Egypt) 159

Evidence for the highly oxidizing properties of NO_2^+ and NO^+ ions in organic media. Application to the study of nitrogen oxide/Li cells
A. Boughriet and M. Wartel (Villeneuve d'Ascq, France) 167

Dual electroactive probes of clay film chemistry
A. Fitch and P. Subramanian (Chicago, IL, USA) 177

Photoelectron injection into aqueous and methanolic solutions saturated with SF_6
A.I. Kalugin, V.V. Konovalov and A.M. Raitsimring (Novosibirsk, Russian Federation) 185

Electrochemical and spectrophotometric studies of Mo(III) species in sulfuric acid media
M. Bertotti and R. Tokoro (São Paulo, Brazil) 193

Kinetics of nitrate reduction by cobalt-cyclam incorporated Nafion® redox polymer
L. Ma, B.-Y. Zhang, H.-L. Li (Lanzhou, China) and J.Q. Chambers (Knoxville, TN, USA) 201

The role of morphology in the methanol electro-oxidation reaction
P.A. Christensen, A. Hamnett and G.L. Troughton (Newcastle, UK) 207

Cyclic voltammetry studies of copper and nickel hexacyanoferrate immobilized on a silica gel surface coated with titanium(IV) oxide
L.T. Kubota and Y. Gushikem (Campinas, Brazil) 219

Charge propagation through a redox polymer film containing enzymes—effects of enzyme loading, pH and supporting electrolyte
M. Elmgren, S.-E. Lindquist (Uppsala, Sweden) and M. Sharp (Umeå, Sweden) 227

Electrochemical oxidation of indole-3-acetic acid: mechanisms and products formed in acidic medium
T. Hu and G. Dryhurst (Norman, OK, USA) 237

Electrochemical, spectroelectrochemical and EPR properties of poly(pyrrole-viologens)
M. Lapkowski (Gliwice, Poland) and G. Bidan (Grenoble, France) 249

Multiple reaction pathways for the oxidation of 2,6-diphenylphenolates
P. Hapiot and J. Pinson (Paris, France) 257

On the nature of redox processes in the cyclic voltammetry of polypyrrole nitrate in aqueous solutions
Y. Li and R. Qian (Beijing, China) 267

Electrocatalyst coatings for oxidations of alcohols based on anodic electrodeposition from solutions of $Ru(OH_2)_6^{2+}$
C. Shi and F.C. Anson (Pasadena, CA, USA) 273

Adsorption of halide ions Cl^-, Br^- and I^- on the basal face of a cadmium single crystal
R. Naneva, N. Dimitrov, A. Popov, T. Vitanov and V. Bostanov (Sofia, Bulgaria) 281

Short communications

Ion transfer at a poly(3-octylthiophene) film electrode
M. Grzeszczuk (Wrocław, Poland), J. Bobacka and A. Ivaska (Turku, Finland) 287

Anodic oxidation of pyrroles N-substituted by groups possessing tertiary amine functions to a new kind of acidobasic membrane
S. Courric, Y. Gache and J. Simonet (Rennes, France) 291

Electrochemically modulated liquid chromatography (EMLC): a new approach to gradient elution separations
R.S. Deinhammer, E.-Y. Ting and M.D. Porter (Ames, IA, USA) 295

Electrochemical generation of a metal-hydride complex $[(C_5Me_5)Ir(L)H]^+$ (L = 2,2′-bipyridine). The electrochemical behaviour.
C. Caix, S. Chardon-Noblat, A. Deronzier (Grenoble, France) and R. Ziessel (Strasbourg, France) 301

Erratum 305

Book reviews 307

Announcements 309